Home composting

Compost happens!

Nature recycles dead organic material by breaking it down, with the help of microorganisms and invertebrate decomposers, into a soil enriching amendment called compost. Compost is made whether or not we are involved in the process, but there are things we can do to ensure it happens rapidly and without odors.

Why should I compost?

In Clark County, approximately 19% of what goes into our landfills is yard debris and food scraps. When these materials break down in the landfill they produce the foul smelling, flammable gas methane. Methane control is one of the factors leading to increased landfill costs and is one of the greenhouse gasses believed to be responsible for global warming.

When we remove organic materials from our properties, particularly yard debris, we are robbing our soil of the ability to feed and replenish itself. This results in decreased plant health and disease resistance and increased use of expensive synthetic fertilizers and pesticides which pollute our ground water.

Composting enables us to keep and use our valuable organic material at home safely, cleanly and inexpensively.

What is compost?

Compost is the dark, crumbly, earthy smelling material resulting from the natural breakdown of organic matter

through the activity of millions of microorganisms and other compost food web organisms.

What can I put in my compost pile?

Yard debris like fallen leaves, weeds, spent garden plants and grass clippings are excellent compost materials. Kitchen scraps can also be composted, but care needs to be taken with these materials to avoid attracting vermin and producing odors. DO NOT put meat, bones, dairy products like milk and cheese, and cooking and salad oils in the compost pile. (For details on composting food scraps refer to our *Food Scraps Composting* leaflet.)

How does my compost pile work?

A compost pile is teeming with thousands of different species of microorganisms. Bacteria are the most numerous decomposers, feeding directly on the organic material and producing heat, carbon dioxide and water as they work. When the bacteria have consumed all the simple foods and the pile no longer heats the fungi begin to take over. Fungi break down the more complex, resistant materials with the help of larger organisms like millipedes, sow bugs and earthworms. The pile is an ecosystem relying on all of these organisms to create a finished product.

Bins and systems

For construction plans and information on various types of compost systems, contact a Master Composter/Recycler at (360) 882-4567.

The five control factors for making compost

There are five control factors we can use to create an environment where these microorganisms can thrive and rapidly compost our organic debris and ensure the pile does not develop bad odors. The more closely we adhere to ideal pile management methods, the shorter the time needed to produce finished compost. The further we get from the ideals, the longer the decomposition time. The quality of the finished compost will be the same regardless of how much we work with the pile.

1. Volume

If large enough, a compost pile can insulate itself at ideal temperatures to ensure rapid decomposition. A pile that is 3'x3'x3' (1 cu. yd.) is an ideal size to insulate itself but not so large that it is difficult to manage. Larger piles, 4'x4'x4' and greater, can be difficult to manage and can be come so heavy that they compact, restricting oxygen and slowing decomposition.

2. Moisture

All life on earth needs water. Too little moisture in a compost pile will cause the microbe populations to slow and die

off. Too much moisture will force oxygen out of the pile, setting up conditions for anaerobic microorganisms which are slow decomposers that produce methane and hydrogen sulfide (smells like rotten eggs). The ideal moisture level in the pile is 45-60%, and is characterized by the pile material feeling about as wet as a wrung out sponge.

3. Aeration

Oxygen in the pile is vital to ensure that anaerobic conditions do not set in. The best way to aerate the pile is to turn it, which also moves the material from the pile's outer edges to the center where microbial activity is greatest. The pile can be tuned as often as every three days for rapid decomposition or as infrequently as twice a month if slower breakdown is acceptable.

Aeration can also be accomplished by poking a broom handle into the pile, creating openings for oxygen to penetrate to the pile's center.

4. Particle size

The more surface area exposed to microbial activity, the faster the rate of decomposition. Smaller particle size exposes more surface area. If particles are too small, however, they can compact, restricting oxygen penetration. Ideally, the material in the compost pile should be chopped into 1-2" pieces.

Organic material can be chopped with a machete, machine shredded, or run over with a lawn mower to break into smaller pieces.

5. Balancing materials in the pile

Nutrients in organic material feed the microorganisms. The carbon (C) found in all organic matter supplies the energy to fuel their activity and the nitrogen (N) supplies the protein that they need for reproduction. When nitrogen rich materials, called "greens," are mixed in equal parts(1:1 by volume) with materials containing little or no remaining nitrogen, called carbon sources or "browns," microbial populations thrive, rapidly breaking down the organic matter.

Greens (N)

- fresh grass clippings
- livestock manure
- weeds, spent garden plants

Browns (C)

- fallen leaves
- straw
- shredded newspaper or cardboard

Compost use

When we use our compost we return the valuable organic matter produced by spent plant material to the soil. This enriches our soil, supporting vast populations of beneficial microorganisms which release an ongoing stream of nutrients to plant roots, enhancing disease resistance. Compost improves the texture and structure of soil, helping it to better hold moisture during dry periods and improving drainage during rainy periods. Compost is nature's most perfect soil builder, and healthy soil means healthy plants!

How do I know if my compost is finished?

A finished compost pile often contains a significant amount of recognizable material. We can tell the pile is finished and ready for use when we recognize the

following three characteristics:

1. The pile has a pleasant, "earthy" smell.
2. The pile will no longer heat, even when turned or moistened.
3. The pile volume has decreased by roughly half and the majority of the material in the pile looks like dark, rich, crumbly soil.

Finished compost tends to be pH neutral regardless of the materials originally added to the pile.

To screen or not to screen

Whether or not to screen the compost will depend on its intended use. If it will be worked into a planting bed or used as mulch, then screening to remove any larger, recognizable material is not required. If it is to be used as a portion of a potting mix or seed starting mix, then sifting the compost through a half-inch screen is recommended. Larger pieces that do not pass through the screen can be added to the new compost pile as "brown" material.

Using the finished compost

Compost is not a fertilizer, but is an amendment that enables soil to hold nutrients that might otherwise be washed out by rain or irrigation.

- **Screened compost** used as 1/4 to 1/3 of a potting mix or seed-starting mix produces a superior plant growth medium and enhances seed germination rates.
- **Two inches of compost** worked into the soil of planting beds each spring feeds beneficial soil organisms and improves soil texture and structure.
- **Mulching garden plants** and exposed soil areas with two to four inches of unscreened compost each year helps to retain soil moisture, insulate plant roots and inhibit weed growth.
- **Top dressing lawns** with one-half inch of compost each spring helps turf to better tolerate drought conditions and enhances disease resistance.

Learn more about composting

The Clark County Master Composter/Recycler program holds free backyard composting workshops for Clark County residents throughout the year. These fun, informative, three-hour classes provide details on how to make and use compost with hands-on learning activities that ensure participants have a thorough understanding of sound composting methods.

If composting fascinates you and you are interested in a wonderful community service opportunity, consider becoming a Master Composter/Recycler Volunteer. Our volunteers work with schools, garden, community and environmental groups, providing research based information that helps our community reduce the volume of material destined for the landfill and improves yards and gardens countywide.

The Master Composter/Recycler program
is a cooperative effort of Clark County, Vancouver, Camas, Washougal, Battle Ground, Ridgefield, Yacolt, La Center and Columbia Springs Environmental Education Center.
For information, please call (360) 882-4567.